

COASTAL CONSERVANCY

Staff Recommendation
August 2, 2012

SAN FRANCISCO ESTUARY INVASIVE SPARTINA PROJECT

99-054-01
Project Manager: Marilyn Latta

RECOMMENDED ACTION: Consideration and possible Conservancy authorization to accept up to \$739,910 in mitigation funds from the Port of Oakland, and to disburse those funds for the Invasive Spartina Project for one year of revegetation project planning, mapping, and implementation and up to five years of monitoring activities at nine sites in the San Francisco Estuary.

LOCATION: Nine sites located variously within: Elsie Roemer Marsh (City of Alameda, Alameda County); Damon Marsh (City of Oakland, Alameda County); Ora Loma Marsh; Cogswell Marsh; and Eden Landing Ecological Reserve (City of Hayward, Alameda County).

PROGRAM CATEGORY: San Francisco Bay Area Conservancy

EXHIBITS

- Exhibit 1: [Regional Map of Proposed Revegetation Sites](#)
 - Exhibit 2: [September 22, 2011 Staff Recommendation](#)
 - Exhibit 3: [January 8, 2012 Invasive Spartina Project California Clapper Rail Habitat Enhancement, Restoration, and Monitoring Plan](#)
 - Exhibit 4: [March 22, 2012 ISP Revegetation Progress Report](#)
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RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31160-31165 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the following:

1. Acceptance and disbursement of up to \$739,910 (seven hundred thirty nine thousand nine hundred and ten dollars) in Port of Oakland (Port) mitigation funds for the San Francisco Bay Invasive Spartina Project (ISP) for one year of revegetation project planning, mapping, and implementation, and for up to five years of monitoring activities at nine treatment sites in the San Francisco Estuary. The Port mitigation funds may be used to augment an existing grant to the California Wildlife Foundation (“CWF”) to undertake the revegetation and associated

activities and to augment an existing contract with Olofson Environmental, Inc. for environmental services necessary to implement the revegetation projects. Any grant of funds for revegetation shall be subject to the following conditions:

- a. Prior to undertaking work on any one or more revegetation projects and prior to disbursement of any funds for that project, the grantee shall submit for review and approval of the Executive Officer a plan detailing the site-specific work, including a list of identified mitigation measures, a work program for revegetation planning, implementation, and monitoring activities, if applicable, including a schedule and budget, and evidence that the contractor and grantee have obtained all necessary permits and approvals for the project.
- b. In carrying out any revegetation project, the grantee shall comply with all applicable mitigation and monitoring measures that are set forth in the approved site-specific plan, that are required by any permit, the amended ISP Biological Opinion or any other approval for the project, and that are identified in the “Final Programmatic Environmental Impact Statement/Environmental Impact Report, San Francisco Estuary Invasive *Spartina* Project: *Spartina* Control Program” (FEIS/R), adopted by the Conservancy on September 25, 2003.”

Staff further recommends that the Conservancy adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. Disbursement of additional funds for the ISP revegetation projects, and planning and management, remains consistent with Public Resources Code Sections 31160-31165 and with the resolutions, findings and discussion accompanying the Conservancy authorizations of September 25, 2003, March 10, 2005, June 16, 2005, March 8, 2007, May 24, 2007, April 24, 2008, April 2, 2009, June 4, 2009, March 17, 2011, and September 22, 2011 as detailed in the September 22, 2011 staff recommendation, attached as Exhibit 2 to the accompanying staff recommendation.
2. The proposed authorization remains consistent with the Project Selection Criteria and Guidelines last updated by the Conservancy on November 10, 2011.
3. The California Wildlife Foundation is a nonprofit organization existing under Section 501(c)(3) of the United States Internal Revenue Code, whose purposes are consistent with Division 21 of the California Public Resources Code.”

PROJECT SUMMARY:

The Conservancy has previously authorized funding for ongoing treatment and eradication of invasive *Spartina* and its hybrids within the San Francisco Bay Estuary, as well as native revegetation projects, under the Conservancy’s Invasive *Spartina* Project (ISP) Control Program. (See Exhibit 2). Since initiation of the ISP Control Program, it has been anticipated that certain revegetation activities would be needed as mitigation to offset habitat for native wildlife that would be lost as a result of the treatment activities. Indeed, revegetation was required as a mitigation measure for the ISP Control Program under the Conservancy-certified programmatic

“Final Programmatic Environmental Impact Statement/Environmental Impact Report, San Francisco Estuary Invasive *Spartina* Project: *Spartina* Control Program” (FEIS/R).

Simultaneous revegetation of native *Spartina foliosa* and high tide flood refugia plant zones was not feasible at the early stages of the project, as seedlings would have been at risk either of over-competition and hybridization with *Spartina alterniflora*, or of getting sprayed with herbicide during treatment. Now that eradication is almost complete at most sites, the conditions are appropriate to revegetate with native seedlings, without risk of over-competition, hybridization, or death from herbicide application.

The ISP Revegetation Program (Revegetation Program) Plan was finalized on January 7, 2012 (see Exhibit 3). The Revegetation Program has been developed for revegetation of native *Spartina foliosa* and additional native marsh plant species that provide high tide refugia for the endangered California clapper rail and other species living in the marshes in San Francisco Bay, and to otherwise restore native vegetation to the wetlands and streams that have been affected by treatment and eradication of invasive *Spartina*. This staff recommendation proposes funding for two activities described under the draft Revegetation Program: 1) funds to one existing grantee to carry out additional revegetation activities at nine sites (Revegetation Implementation Projects); and 2) environmental services to undertake technical planning and to prepare environmental documentation and monitoring plans for revegetation work (Technical Planning). These activities are described in greater detail, as follows:

1. Revegetation Implementation Projects.

On September 22, 2011 the Conservancy authorized funding for ongoing revegetation projects through 2013. This authorization would provide additional funding towards ISP revegetation projects at nine sites. These projects will be undertaken through a grant augmentation to an existing Conservancy grantee, the California Wildlife Foundation. The projects involve seedling propagation, on-the-ground planting of native seedlings, and revegetation monitoring and maintenance. The activities will be focused on nine priority sites in San Francisco Bay and will be implemented between 2012 through 2013. Total proposed funding for these activities is \$421,425.

2. Technical Planning.

On September 22, 2011 the Conservancy authorized funding for ongoing revegetation projects through 2013. This authorization would provide additional funding towards ISP revegetation planning, mapping, and monitoring projects at nine sites. Technical Planning activities will be undertaken by lead ISP contractor Olofson Environmental, Inc. retained by the Conservancy. The activities will include planning, mapping, and monitoring revegetation work at the nine Invasive *Spartina* Project treatment sites in San Francisco Bay.

These activities will also take place during 2012 through 2013. Total proposed funding for these activities is \$251,221.

PROJECT HISTORY

The Conservancy first approved funding for the ISP Control Program in September 2003 (see Exhibit 2). This invasive species eradication project has become a successful, region-wide model for treating an invasive species with multiple landowners and agency stakeholders participating in the project in all nine counties of the San Francisco Bay Area. Since the peak of

invasion in 2005, the Control Program has resulted in the elimination of more than 755 net acres (nearly 95%) of invasive *Spartina alterniflora*, *densiflora*, *anglica*, and *patens*; and hybridized *Spartina foliosa* x *alterniflora* and *Spartina densiflora* x *alterniflora* from more than 20,000 acres of infested tidal marsh and mudflats bay-wide. There is an estimated total of less than 45 net acres of remaining non-natives and hybrids, located within thousands of acres of tidal wetland sites in San Francisco Bay.

The area of non-native *Spartina* has been reduced markedly since the first full season of effective treatment started just six years ago. In most areas where non-native *Spartina* has been eradicated, the result has been rapid and large-scale return to a native plant species dominated habitat at low- and mid-marsh elevations, and a return to the natural mudflat and tidal channel conditions at lower elevations. As the marshes recover from the *Spartina* invasion over time, it is anticipated that native plant diversity will passively recover in most marshes.

However, in some locations, particularly near the point of initial introduction and in areas where hybrids were intentionally transplanted, the hybrid cordgrass (and in one case, dense-flowered cordgrass [*Spartina densiflora*]) had effectively displaced most of the native flora, significantly damaging the native marsh structure. The hybrid has caused changes to habitat that the endangered California clapper rail uses, and implementation of the Revegetation and Monitoring Plan (Exhibit 2) is necessary to create habitat to benefit rails.

Pilot revegetation projects have been underway since 2006, involving multiple participants at several sites and providing the basis for expected success with the scaled-up full revegetation approach as described below. ISP and partners increased efforts with an aggressive revegetation program in 2011 (see Exhibits 1 and 2), and have outplanted a total of 70,000 native seedlings at 24 sites from December 2011 through April 2012 (see Exhibit 3).

This authorization requests funding for 2012-13 revegetation projects at nine sites. A total of 31,857 native cordgrass and marsh gumplant seedlings will be propagated and outplanted in winter 2012-13 and monitored for up to five years. These projects will result in improved habitat at each of the locations.

Overview of Revegetation Approach: Exhibit 2 includes a full description of revegetation goals and techniques. This revegetation plan seeks to augment native plant species within the tidal marsh plain and in adjacent upland areas, where it will enhance refugia for California clapper rails.

Revegetation Program Goals and Objectives: The proposed authorization is consistent with the Revegetation Program, and will include active revegetation on 2.21 acres to enhance 20 acres of clapper rail habitat.

Goals:

1. Enhance and accelerate *Spartina foliosa* re-establishment at selected marshes through introduction of plugs or propagated seedlings that will support associated faunal communities including clapper rail foraging and nesting habitat.

2. Enhance and accelerate post-treatment marsh succession and complexity with introduction of other native marsh plant species (such as *Grindelia stricta*), which have a tall shrubby structure that will provide clapper rail nesting substrate, cover and high tide refugia.

Objectives:

1. Propagate 31,857 native cordgrass and marsh gumplant seedlings in local native plant nurseries.
2. Conduct science-based revegetation projects at nine sites that use best methods and planting scenarios for *Grindelia stricta* and *Spartina foliosa* as appropriate.
3. Comprehensively monitor planting efforts, including:
 - Global Positioning System mapping of planting sites;
 - Monitoring of planting survivorship, planting method assessment, and spread of active revegetation;
 - Maintain planted areas (e.g., re-planting, weed control) to assist in survivorship of plantings through at least the first 5 years post-planting; and
 - Adaptively manage plantings to maximize potential California clapper rail benefits.

Conservancy staff anticipates that this funding will be sufficient for revegetation implementation and technical planning activities through December 2013, and that funding for 2014-16 will be needed to continue and expand the revegetation program. Conservancy staff expects to seek outside grant sources (e.g. United States Fish and Wildlife Service National Coastal Wetlands Conservation Grant Program and others) to add funding for later years.

Revegetation funding for the ISP is critical at this stage of the project as we comply with Endangered Species Act regulations, and near our goals for eradication.

PROJECT FINANCING

Port of Oakland mitigation funds	<u>\$739,910</u>
Total Authorization	\$739,910

The proposed disbursement of under this authorization will derive entirely from the Port of Oakland mitigation funds that the Port will provide to the Conservancy. The total amount of Port Mitigation funding is up to \$739,910; up to \$672,646 will be used for project costs and up to \$67,264 will support Conservancy project management. The Port will provide this funding in advance to the Conservancy for the purposes outlined in this proposal.

In connection with its Oakland Airport Runway Safety Improvement Project, the Port of Oakland is required to provide mitigation to offset impacts to California clapper rail habitat, in the form of replanting or enhancing 20 acres of native plant. The mitigation funds must be used for this purpose. The use of the funds for the ISP revegetation project fulfills this obligation.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

As described in previous staff recommendations (Exhibit 1) and associated Conservancy resolutions, the ISP and implementation of the Revegetation Program serve to carry out the objectives for the San Francisco Bay Area Conservancy Program mandated by Chapter 4.5 of Division 21 of the Public Resources Code, Sections 31160-31165. The ISP and its Revegetation Program serve to protect and restore tidal marshes, which are natural habitats of regional importance. The proposed project would be undertaken pursuant to Chapter 4.5 of the Conservancy's enabling legislation, Public Resource Code Sections 31160-31165, which states that the Conservancy may award grants in the nine-county San Francisco Bay Area to help achieve stated goals.

Under Section 31162(b), the Conservancy may award grants to “protect, restore, and enhance natural habitats and connecting corridors, watersheds, scenic areas, and other open-space resources of regional importance”. This project entails the restoration and enhancement of natural habitats within the nine-county Bay Area region.

Under Section 31162(d), the Conservancy may award grants to “promote, assist, and enhance projects that provide open space and natural areas that area accessible to urban populations for recreational and educational purposes.” This project would enhance natural areas that are easily accessible by residents of Alameda, Oakland, and Hayward and nearby communities for recreational and educational purposes.

The Project satisfies all of the criteria for determining project priority under 31163(c), since the project: 1) is supported by adopted regional plans including the Baylands Ecosystem Habitat Goals Report (1999), San Francisco Bay Subtidal Habitat Goals Report (2010), San Francisco Bay Joint Venture Implementation Strategy (2011), San Francisco Estuary Comprehensive Conservation and Management Plan (2007), Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California (Draft, 2010); 2) serves a regional constituency by enhancing habitat for endangered species that are considered a priority for the region; 3) can be implemented in a timely manner as the contractor and grantee are prepared to start work immediately upon securing funding and permits; 4) provides direct benefits to endangered species that would be lost if the project is not quickly implemented; and 5) will include significant matching funds from the Port of Oakland.

CONSISTENCY WITH CONSERVANCY'S STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

Consistent with **Goal 10 Objective B**, the project will develop a final restoration plan to enhance wetland habitats that involves governmental and non-governmental partners, includes outreach to involve other interested parties in restoration, and incorporates scientific knowledge about impacts from global climate change into the plan design.

Consistent with **Goal 10 Objective C**, the project will restore wetland habitats with matching funds and a comprehensive monitoring plan.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines adopted November 10, 2011, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Support of the public:** The project has a broad base of support from multiple public agencies and non-profit organizations, including the US Fish and Wildlife Service, San Francisco Bay Joint Venture, San Francisco Estuary Partnership, Save The Bay, and others.
4. **Location:** The project is located within the jurisdiction of the San Francisco Bay Area Conservancy Program.
5. **Need:** The Conservancy depends on partnership and outside fund sources to complete ISP revegetation projects; without the proposed revegetation work, the project cannot succeed.
6. **Greater-than-local interest:** The recovery of endangered species and restoration of tidal marsh habitat is of regional significance.
7. **Sea level rise vulnerability:** Sea levels are anticipated to rise a minimum of eighteen inches by 2050 and fifty-five inches by 2100. The nine sites are subject to the effects of sea level rise, along with increased wave erosion, storm surge and habitat changes. The restoration of high tide flood refugia at these sites will provide higher elevation habitat in the face of sea level rise.

Additional Criteria

8. **Urgency:** Failure to implement the project in the near future will mean not enhancing endangered species habitat at the sites, which is required by ISP permits.
9. **Leverage:** See the "Project Financing" section above.
10. **Readiness:** The project can be implemented in winter 2012-13.
11. **Cooperation:** The revegetation plans for restoring the sites were developed with significant input from many organizations, including the US Fish and Wildlife Service, the San Francisco Bay Joint Venture, nine treatment agency grantees, and a Technical Advisory Committee with regional clapper rail experts.
13. **Minimization of Greenhouse Gas Emissions:** The EIR for the project provides a comprehensive discussion of temporary construction air quality impacts and the resulting air quality benefits of the project post-construction. Greenhouse gasses will be reduced post-construction primarily through vehicle trip reduction and carbon sequestration by restored

habitats. Tidal marshes are known to sequester significant amounts of atmospheric carbon. According to Trulio et. al. (2007) “restoring tidal salt marshes is one of the most effective measures for sequestering carbon.” Other studies have demonstrated these beneficial effects on greenhouse gas reduction.

CONSISTENCY WITH SAN FRANCISCO BAY PLAN:

The Project is within the permit jurisdiction of the San Francisco Bay Conservation and Development Commission (“BCDC”).

The project is consistent with the following policies of BCDC's San Francisco Bay Plan:

Part III: The Bay as a Resource

Water Quality

- To the greatest extent feasible, the Bay marshes, mudflats, and water surface area and volume should be maintained and, whenever possible, increased.

Marshes and Mudflats

- To offset possible additional losses of marshes due to necessary filling and to augment the present marshes: (c) the quality of existing marshes should be improved by appropriate measures whenever possible.

COMPLIANCE WITH CEQA:

The proposed activities are consistent under the Conservancy-certified programmatic “Final Programmatic Environmental Impact Statement/Environmental Impact Report, San Francisco Estuary Invasive *Spartina* Project: *Spartina* Control Program” (FEIS/R) prepared for the ISP Control Program pursuant to the California Environmental Quality Act (CEQA). In addition, all revegetation activities described in this proposal are permitted under the current Section 7 Endangered Species Act consultation with US Fish and Wildlife Service.

Since the projects, including potential environmental effects and conservation measures, remain unchanged, the proposed authorization remains consistent with the CEQA findings adopted by the Conservancy in connection with the September 22, 2011 authorization for the 40 original revegetation sites (Exhibit 2). No further environmental documentation for these revegetation activities is required.